

20

CA

Methods for making concrete waterproof and gasproof.  
 S. I. Idashkin. *Coke and Chem.* (U. S. S. R.) 1934.  
 No. 10, 22-6. Various methods of waterproofing and  
 gasproofing were studied and an app. for testing concrete  
 for these qualities is described. The concrete (1.3)  
 made with the addn. of 2.5% CaCl<sub>2</sub> was almost gasproof  
 (for 1). A. Pestoff

ASAC-3.1.1 METALLURGICAL LITERATURE CLASSIFICATION

21

*ca*

The gas permeability of coke. S. I. Idonkin. *Chem. and Chem. (U. S. S. R.)* 6, No. 9, 71-2 (1938); *Chemie & Industrie* 38, 459.—The gas permeability of coke can be determined by means of an arrangement comprising essentially a chamber for measuring the pressure of gas sent into the chamber, a chamber containing the sample, and a gas-metric buret for measuring the gas which has passed through the sample; the latter must have 2 absolutely parallel faces that are paraffined. The permeability of coke increases with the gas pressure. A. P. C.

ASB-55A METALLURGICAL LITERATURE CLASSIFICATION

1900 1910 1920 1930 1940 1950 1960 1970 1980 1990

1900 1910 1920 1930 1940 1950 1960 1970 1980 1990

IDASHKIN, S. I.

35250. B etonnye Massivy Dlya Sbornykh Konstruktsiy Gidrotekhnicheskikh sooruzheniy. Trudy IV Vsesoyuz. Konf-Tsii Po Betono Izhel'zobeton. Konstruktsiyam. Ch. I. M.-L., 1949, S. 295-300

SO: Letopis 'Zhurnal 'Nykh Statey Vol 34, Maskva, 1949

IDENTIFICATION, 7.

Kirpichnaya Kladka. (Brick Laying)  
Moskva, Gos. 120-vo Arkhitektury i  
Gradostroitel'stva, 1950

73 P. Illus., Diagr.

On advanced experiences in brick laying carried out by outstanding  
Stakmandvites. Author analyzes certain methods of brick laying indicating  
each of their advantages.

IDASHKIN, S. I.

Hoisting Machinery

Derrick for small building construction,, Mekh. stroi., 9, no. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952. Unclassified.

1. IDASHKIN, S. I.
2. USSR (600)
4. Concrete - Testing
7. Testing the permeability of concrete. Stroi.prom. 30 no. 12, 1952
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

IDASHKIN, S.I., kandidat tekhnicheskikh nauk.

~~MECHANICAL TENSION OF CIRCULAR REINFORCEMENT CABLES USED IN BUILDING~~  
Mechanical tension of circular reinforcement cables used in building  
reinforced concrete tanks. Stroi.prom. 32 no.5:5-9 My '54. (MLRA 7:6)

1. VNIISTroyneft'. (Tanks)

GOLOVINTSOV, Mikhail Grigor'yevich; IDASHKIN, S.I., redaktor; BASHKIROV,  
L.G., redaktor izdatel'stva; KONYASHINA, A., tekhnicheskij redaktor

[Containers for transporting bricks by automobile] Avtokonteiner  
dlia pervozki kirpicha. Moskva, Izd-vo Ministerstva Kommunal'nogo  
khoziaistva RSFSR, 1956. 30 p. (MIRA 9:7)  
(Bricks--Transportation)



IDASHKIN, S.I., kandidat tekhnicheskikh nauk.

~~Stroitel'stvo~~  
Prestressed reinforcement of reinforced concrete tank bottoms.  
Stroi.pred.neft.prom. 1 no.8:28-29 0 '56. (MLRA 9:12)

(Prestressed concrete) (Tanks)

~~IDASHKIN, S.I.~~, kandidat tekhnicheskikh nauk, (g. Moskva); SAFARIAN, M.K., kandidat tekhnicheskikh nauk, (g. Moskva); TUPIKOV, A.N., inzhener (g. Moskva).

Concrete building elements reinforced with prestressed concrete rods.  
Strei. pred. neft. prem. 2 no.3:18-20 Mr '57. (MIBA 10:4)  
(Reinforced concrete construction)

10134410  
IDASHKIN, S.I., kand.tekhn.nauk.

Efficient forms for the construction of reinforced concrete  
tank walls. Stroi.pred.neft.prom. 2 no.7:27-29 JI '57.

(MIRA 10:10)

(Reinforced concrete construction) (Tanks)

IDASHKIN, S.I., kand. tekhn. nauk.

Methods for eliminating leaks in reinforced concrete water tanks.  
Stroi. pred. neft. prom. 2 no.12:29-30 D '57. (MIRA 11:3)  
(Tanks) (Reinforced concrete)

"APPROVED FOR RELEASE: Thursday, July 27, 2000

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CIA-RDP86-00513R00051832(

~~TEKHNICHESKAYA~~  
~~TRASHKIN~~, S.I., kand.tekhn.nauk; KAMERSHTEYN, A.G., kand.tekhn.nauk;  
SAFARYAN, M.K., kand.tekhn.nauk.

Composite reinforced concrete structural components. Stroi.prom.  
35 no.6:16-18 Je '57. (MIRA 10:10)  
(Reinforced concrete)

IDASHKIN, S.T.

IDASHKIN, S.I.

New reinforced concrete tanks for storing light-colored petroleum products. Neft. khos. 35 no.8:62-67 Ag '57. (MIRA 10:11)  
(Petroleum products--Storage) (Reinforced concrete)

IDASHKIN, S.I., kand.tekhn.nauk; SAFARIAN, M.K., kand.tekhn.nauk; KARAMYSHEV, I.A., inzh., nauchnyy red.; GORYACHEVA, T.V., red.izd-va; PRUSAKOVA, T.A., tekhn.red.

[Reinforced concrete reservoirs and tanks for water and petroleum products; design and construction practices abroad] Zhelezo-betonnye rezervuary dlia vody i nefteproduktov; narubeshnyi opyt proektirovaniia i stroitel'stva. Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1958, 178 p. (MIRA 12:3)  
(Precast concrete construction) (Tanks) (Reservoirs)



IDASHKIN S. I.

AUTHOR: Idashkin, S. I., and Veselov, V. Z.

93-58-3-16/17

TITLE: Reinforced Concrete Tanks for Underground Gasoline Storage  
(Zhelezobetonnyy rezervuar dlya podzemnogo khraneniya benzina)

PERIODICAL: Neftyanoye khozyaystvo, 1958, Nr 3, pp 68-72 (USSR)

ABSTRACT: The article describes experimental work in the development of gasoline-impermeable concrete for underground storage tank construction in the Soviet Union. The All-Union Scientific Research Institute for Construction in the Petroleum and Gas Industry (VNIISTROYNEFT') and the State Institute for the Design and Planning of Petroleum Industry Establishments in the Eastern Regions (Giprovestokneft') recommended three kinds of gasoline-impermeable concrete from which experimental tanks were constructed. G. P. Chalkin [Ref 2] has published experimental data on a storage tank of durable coarse-grain water-saturated concrete built in the area of Kuybyshev at Morkvasha. V. E. Leyrikha and Engineer S. I. Ratner, published experimental data on a concrete storage tank containing an addition of calcium and sodium chlorides built at the Pavelets tank farm (Pavel'tsovskaya neftebaza) [Ref 3]. Professor D. P. Kozyrev (deceased) suggested that gasoline-impermeable concrete can be produced by including an addition of ferric hydroxide.

Card 1/2

Reinforced Concrete Tanks (Cont.)

93-58-16/17

V. E. Veselov, E. V. Dubrovskaya, T. A. Mashkova, O. V. Prokof'yeva, and R. S. Shats carried out laboratory experiments with this kind of cement and the results are shown in Tables 1-3. Fig. 1 presents the plan and cross section of a storage tank near Moscow built of concrete with a ferric hydroxide addition. Fig. 2 shows a machine designed by Engineer G. Kalenichenko pulling circular reinforcements onto the experimental tank. The completed storage tank was tested under industrial conditions by the All-Union Scientific Research Institute for the Processing of Petroleum and Gas and for the Production of Synthetic Liquid Fuel (VNIIP) under the direction of N. N. Konstantinov. The tests determined that there was practically no gasoline loss due to evaporation, no gasoline seepage, and no deterioration in gasoline properties. The authors conclude that the laboratory and field results make it possible to recommend the use of ferric hydroxide additions in the construction of gasoline-impermeable reinforced-concrete storage tanks. Experiments are being conducted in order to determine whether layers of gunite containing ferric hydroxide applied to storage tanks of conventional Portland cement can make the tanks gasoline impermeable. There are 2 figures, 2 tables, and 4 Soviet references.

AVAILABLE: Library of Congress

Card 2/2

IDASHKIN, S.I., kand. tekhn. nauk.

Machine for winding ring reinforcements on the walls of a reinforced  
concrete tank. Bet. 1 zhel.-bet. no.3:114-115 Mr '58. (MIRA 11:3)  
(Tanks) (Reinforced concrete construction)

IDASHKIN, S.I., kand. tekhn. nauk.

Wet gasholder with a reinforced concrete reservoir. Stroi. pred.  
neft. prom. 3 no.3:30-31 Mr '58. (MIRA 11:6)  
(Gasholders) (Reinforced concrete)

IDASHKIN, S.I., kand. tekhn. nauk

Flexible joint sealing of reinforced concrete tanks. Stroi. truboprov.  
3 no.8:31-32 Ag '58. (MIRA 11:11)  
(Tanks) (Reinforced concrete construction)

IDASHKIN, S.I., kand.tekhn.nauk

Design of reinforced concrete tank coverings. Stroi.truboprov.  
4 no.1:30-32 Ja '59. (MIRA 12:1)  
(Tanks) (Reinforced concrete construction)

IDASHKIN, S.I., kand. tekhn. nauk; LAMPKO, S.N., retsenzent [deceased];  
KARAMYSHEV, I.A., nauchnyy red.; KOMAROV, L.S., red.; DEMIDOV,  
Ya.F., tekhn. red.

[Precast reinforced-concrete tanks] Sbornye zhelezobetonnye re-  
servuary. Moskva, VNIIST Glavgasa SSSR, redaktsionno-izdatel'skii  
otdel, 1960. 149 p. (MIRA 14:5)  
(Precast concrete construction) . (Tanks)

IDASHKIN, S.I., kand.tekhn.nauk

Plastic oil tanks. Stroi.truboprov. 5 no.6:30-31 Je '60.  
(Tanks) (Plastics) (MIRA 13:7)



GOASHKIN, S.I.

Reinforced concrete tanks for storing petroleum and petroleum products.  
Neft.khoz. 39 no.8:61-62 Ag '61. (MIRA 14:7)  
(Tanks) (Reinforced concrete construction)

IDASHKIN, V. I., Eng.

Civil Engineering

Meeting of the All-Union Civil Engineers' Scientific and Technical Society on Cooperation with the great construction projects of communism. *Biul. stroi. tekhn.* 9 No. 18, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

1. IDASHKIN, V. I.
2. USSR (600)
4. Locks (Hydraulic Engineering)
7. Conference on planning and building navigable hydro developments and canals. Gidr. stroi. 21 no. 9, '52.
9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

**IDASHKIN, V.I., inzhener.**

Second All-Union competition for the best plastering machinery. *Stroitel'stroy. tekhn.* 10 no.3:31-32 F '53. (MLRA 6:12)

1. *Vsesoyuznoye nauchnoye inzhenerno-tekhnicheskoye obshchestvo stroiteley.* (Plastering)

1 DASHKIN, V.I., inzhener, uchenyy sekretar'.

Consultations on the mechanics of soils and foundations. Gidr.stroi, 22  
no.5:42-47 Je '53. (MLRA 6:6)

1. Vsesoyuznoye nauchnoye inzhenernotekhnicheskoye obshchestvo stroiteley.  
(Soil mechanics)

IDASHKIN, V.I., inzhener, uchenyy sekretar'.

Consultations on technological problems of hydrotechnical concrete.

Gidr.stroi. 22 no.8:44-46 Ag '53.

(MLRA 6:8)

1. Vsesoyuznoye nauchnoye inzhenerno-tekhnicheskoye obshchestvo stroiteley.  
(Concrete construction)

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Zhurin, V.D.	"Popular Scientific and Technical Series for Engineering and Technical Workers, and Workers on Large Hydraulic Engineering Constructions"	All-Union Scientific Engineering and Technical Society of Constructors
Idashkin, V.I.		
Shchelkanov, V.I.		
Neporozhniy, P.S.		
Devnogo, Yu. B.		
Ivyanskiy, G.B.		
Ogurtsov, A.I.		
Nikonov, G.P.		

80: W-30604, 7 July 1954

*IDASHKIN, V. I.*

AID P - 533

Subject : USSR/Engineering

Card 1/1 Pub. 93 - 8/9

Author : Idashkin, V. I., Engineer

Title : ~~Report on a conference concerning sectional reinforced concrete construction for industrial building. (All-Union Scientific Society of Engineers and Technicians)~~  
Report on a conference concerning sectional reinforced concrete construction for industrial building. (All-Union Scientific Society of Engineers and Technicians)

Periodical : Sbor. mat. o nov. tekhn. v stroit., 7, 28-30, 1954

Abstract : The conference heard several reports on various applications of reinforced concrete prefabricated sections for industrial buildings and structures, and on the methods used in their production and assembly.

Institution : None

Submitted : No date



IDASHKIN, V.I., inzhener.

Consultation on the planning of concrete spillway dams built on rock-  
less bases. Gidr.stroi. 23 no.5:44-45 '54. (MIRA 7:8)

(Dams)

IDASHKIN, V.I., inshener.

Consultation on the artificial lowering of the ground water level.  
Gidr.stroi 23 no.6:44-45 '54. (MIRA 7:9)  
(Water, Underground)

IDASHKIN, V.I.

All-Union conference on problems of using welded reinforcement.  
Gidr.stroi. 23 no.8:44-46 '54. (MLRA 8:1)

1. Nauchnyy sekretar' Vsesoyuznogo nauchno-inzhenerno tekhnicheskogo obshchestva stroiteley.  
(Reinforced concrete construction)

**IDASHKIN, V.I.**

On the All-Union Conference on Reinforced and Plain Concrete. Bet. 1  
shel.-bet. no.1:35 Ap '55. (MLA 8:9)

1. Uchenyy sekretar' Organizatsii po podgotovke Vsesoyuznoy konferentsii  
po betonu i zhelezobetonu. (Moscow—Concrete construction—Congresses)

Subject : USSR/Hydraulic Engineering AID P - 3214  
Card 1/1 Pub. 35 - 18/19  
Author : Idashkin, V. I.  
Title : All-Union conference on concrete and reinforced concrete  
Periodical : Gidr. stroi., 5, 45-47, 1955  
Abstract : The author reports on the conference held May 30 - June 3, 1955, and enumerates the names of active participants, giving the title of their addresses. Some resolutions made by the members are listed, i.e. a wider use of precast ferro-concrete in hydraulic construction, the standardization of types of precast reinforced concrete parts, further research on new designs for dams, and the use of complex precast parts for navigation locks and spillways.  
Institution : None  
Submitted : No date

IDASHKIN, V. I., inzh.

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32(

Conference on using welded reinforcements in building. *Biul. stroi. tekhn.* 12 no.1:34-35 Ja '55. (MIRA 11:12)

1. Vsesoyuznoye nauchnoye inzhenerno-tekhnicheskoye obshchestvo stroiteley.

(Reinforced concrete)

IDASHKIN, V.I., inzhener.

Conference on publicizing experience in cold weather concrete  
work. Bet.1 shel.-bet. no.1:39-40 Ja '56. (MIRA 9:4)  
(Moscow--Concrete construction--Cold weather conditions)

IDASHKIN, V.I., inzhener.

Conference on prestressed reinforced concrete. Bet.1 shel.-bet.  
no.9:336-337 8 '56. (MLRA 9:10)  
(Prestressed concrete)

IDASHKIN, V.I., inzhener.

Conference on hydromechanization of earthwork and damming rivers.  
Nev.tekh.i pered. op. v strel. 18 no.4:31-32 Ap '56. (MLRA 9:7)  
(Earthwork) (Hydraulic engineering)



IDASHKIN, V.I., inzhener.

Conference on exchange of experience gained in using prestressed  
reinforced concrete elements. Now.tekh.i pered.op.v stroi. 18  
no.10:31-32 0 '56. (MLRA 9:11)  
(Sverdlovsk--Prestressed concrete construction)

IDASHKIN, V.I., inzhener.

Conference on hydraulic methods of earthwork and damming of  
rivers. Oidr.stroi. 25 no.2:59-62 '56. (MLRA 9:8)

1. Zamestitel' predsedatelya TSentral'nogo pravleniya nauchno-tekh-  
nicheskoye obshchestvo stroitel'noy promyshlennosti.  
(Moscow--Hydraulic engineering--Congresses)

IDASHKIN, V., inzhener

Discussing new "Directives on building in seismic regions". Gor. 1  
sel'.stroil. no.1:25 Ja '57. (MIRA 10:4)  
(Earthquakes and building)

AUTHOR: Idashkin, V. I. (Engineer). 97-57-9-15/17  
TITLE: All-Union Congress on Large Panel and Large Block Construction  
(Vsesoyuznoye soveshchaniye po krupnopanel'nomu i  
krupnoblochnomu stroitel'stvu).  
PERIODICAL: Beton i Zhelezobeton, 1957, Nr.9. p. 376. (USSR).  
ABSTRACT: The Scientific and Technical Association of the Building  
Industry of USSR (Nauchno-tekhnicheskoye obshchestvo  
stroitel'noy promyshlennosti SSSR) and the Union of  
Architects of USSR (Soyuz arkhitektorov SSSR) organized  
this Congress to generalize experience of large panel and  
large block methods of residential building, and to further  
the development of this type of construction in USSR.  
The Congress was held from 4th - 10th June, 1957 in  
Chelyabinsk. Six hundred delegates attended, representing  
building organizations, planning and scientific organizat-  
ions and factories manufacturing building materials. The  
Congress was opened by the Secretary of the Chelyabinsk  
KPSS, N. V. Laptev. A paper on "The Present Position and  
Future Developments in the Use of Large Panel and Large  
Block Construction" was read by G. F. Kuznetsov, a member  
of the Academy of Building and Architecture of USSR  
(Akademii stroitel'stva i arkhitektury SSSR). A paper on

Card 1/3

97-57-9-15/17

All-Union Congress on Large Panel and Large Block Construction

"Material Resources for Large Panel and Large Block Construction Methods" was read by A. N. Popov, also a member of the above Academy, and contributions on this subject were also made by the following: V. I. Bogomolov (Member of the Academy of Building and Architecture, USSR), Engineers P. F. Panfilov, V. M. Kopp and L. S. Raynus (Leningrad), A. B. Strutinskiy and V. A. Mikhaylov (Kiev), E. D. Samoylovich (Chelyabinsk), A. S. Krivorotov (Magnitogorsk), Candidate of Technical Sciences I. L. Zhodzishskiy (Sverdlov), Engineer V. N. Popko (Krasnotur'insk), and V. G. Lelichenko (Zhdanov). Papers on the results of investigations into the subject of large panel and large block building methods were read by:- Member of the Academy of Building and Architecture of USSR L. I. Onishchik, and A. V. Elkin; Doctor of Technical Sciences Prof. A. E. Desov; Candidates of Technical Sciences N. Ya. Spivak and E. M. Berzon, and Engineer A. A. Liberman read papers on the Technology of the production of large panels and blocks. It was generally agreed that large panels and blocks are too heavy. The answer lies in the technology of new building materials, especially in light aggregates and concretes. The high proportion of defective units damaged during transport and

Card 2/3

97-57-9-15/17

All-Union Congress on Large Panel and Large Block Construction

assembly causes concern. The Congress made a number of recommendations for expansion, improvement in quality and reduction in costs. Lightweight aggregates such as Keramzit and Termozit, etc., are advocated, together with clinker and furnace slag. Highly active, quick-hardening cement should be used. Further investigations should be carried out on aerated concrete. Study and experience of large panel and large block construction shows that it is possible to reduce the assembly time by at least 20 - 30% by using the continuous method of assembly by employing two or three shifts, and by improved methods of assembly. The Academy of Building and Architecture of USSR was approached by the Congress to study types of cranes suitable for this particular assembly work.

AVAILABLE: Library of Congress.

1. Building industry-Conference

Card 3/3

IDASHKIN, V.I. ....

Conference on designing and building high dams. Gidr. stroi. 26  
no. 4:62-63 Ap '57. (MIRA 10:6)

1. Zamestitel' predsedatelya Tsentral'nogo pravleniya Nauchno-  
tekhnicheskogo obshchestva stroitel'noy promyshlennosti.  
(Hydraulic engineering--Congresses) (Dams)

IDASHKIN, V., insh.

~~Efficient use of natural stone in building.~~ WFO no.3:37-38  
Mr '59. (MIRA 12:6)

(Building stones)



IDASHKIN, V., insh.

Improve the calculation of construction elements. WFO no.9:52  
S '59. (MIRA 13:1)

(Building research)

IDASHKIN, V., inzh. (Moskva)

Using fine sands in concrete. NTO 2 no.1:30 Ja '60.  
(MIRA 13:5)

(Concrete)

ZIMIN, P.A., kand.tekhn.nauk; IDASHKIN, V.I., inzh.

Conference on the improvement of construction elements and the  
performance of building and assembling cranes. Mekh.stroi.  
17 no.3:26-28 Mr '60, (MIRA 13:6)  
(Cranes, derricks, etc.)  
(Precast concrete construction)

IDASHKIN, V.I.

Conference on the mechanization of production and use of  
precast prestressed reinforced concrete construction  
elements. Mekh. stroi. 17 no.6:26-27 Je '60. (MIRA 13:6)  
(Precast concrete construction)

IDASHKIN, V.I., inzh.

Conference on the over-all mechanization and automation  
of the extraction and processing of rock building materials.  
Mekh. stroi. 17 no:7:31-32 Je '60. (MIRA 13'7)  
(Building materials)

IDASHKIN, V.I., insh.

Conference on over-all mechanization and automation of  
the extraction and processing of rock products. Biul.  
stroi.tekh. 17 no.7:42-43 J1 '60. (MIRA 13:7)  
(Building materials industry)

IDASHKIN, V.I., insh.

Conference on the mechanization of production and use of pre-  
stressed reinforced concrete construction elements. Gidr.  
stroil. 30 no.7:62-63 J1 '60. (MIRA 13:7)  
(Precast concrete construction)

IDASIKIN, V.I., inzh.

Conference on over-all mechanization and automation of the  
production and preparation of nonmetallic construction materials.  
Gidr. stroi. 30 no.9:60 S '60. (MIRA 13:9)  
(Building materials industry)



IDASHKIN, V.I., insh.

Conference on over-all mechanization and automatization of quarrying  
and processing natural wall stone. Mekh. stroi. 17 no.12:29-30 D '60.  
(MIRA 13:12)

(Quarries and quarrying)

IDASHKIN, V.I., inzh.

Congress on improvement of the design and operation of cranes used  
in construction and mounting. Gidr. 1 stroi. 30 no.5:62-63 My '60.  
(MIRA 14:5)

(Cranes, derricks, etc.-Congresses)

IDASHKIN, V.I.

All-Union Conference on the Use of Welding in Building  
Structures. Avtom. svar. 14 no.10:94-96 0 '61. (MIRA 14:9)  
(Welding--Congresses)

IDASHKIN, V.I., inzh.

Conference on the maintenance and repair of building machinery.  
Mekh. stroi. 18 no. 2:29-30 F '61. (MIR. 14:2)  
(Building machinery--Maintenance and repair)

IDASHKIN, V.I., inzh.

Conference on the use of ultrasonic waves in construction.  
Gidr. stroi. 31 no.7:61-63 J1 '61. (MIRA 14:7)  
(Ultrasonic waves--Industrial applications)

IDASHKIN, Yu.V.

Problem of involuntary recall. Vop.psikhol. 5 no.2:83-93  
Mr-Apr '59. (MIRA 12:6)

1. Institut psikhologii Akademii pedagogicheskikh nauk RSFSR,  
Moskva.

(Reproduction (Psychology))

IDASHKIN, Yu. V.

Leningrad conferences on the problem of abilities. Vop. psikhol.  
6 no.5:181-182 S-O '60. (MIRA 13:11)

(Ability)

27.5000

39918

S/044/62/000/007/093/100  
C111/C333

AUTHORS: Suvorova, V. V., Idashkin, Yu. V., Gadzhiyev, S. S.

TITLE: An attempt at the psychological examination of the activity of operators (In the example of working at electrical panels for remote control of electricity plants)

PERIODICAL: Referativnyy zhurnal, Matematika, no. 7, 1962, 81, abstract 7V399. ("Vopr. psikhologii", 1961, no. 3, 47-60)

TEXT: Two types of signal equipment arrangements are analysed: 1) the existing arrangement is distinct there-in that the operator receives unordered bits of information on the work of the system being controlled, thus making repeated readings inevitable. The amount of information received and to be worked-out is very large in a critical situation and the selection of the signal with the most important information is made difficult; 2) the new arrangement has the characteristics that the signal sources are distributed according to their functional purposes; this concentrates the information which the operator receives, does away with repeated readings and permits the selection of the necessary signals to be made in the appropriate sequence. The reading speed and the supervision of the automatic system depend on the extent to which  
Card 1/2

X

S/044/62/000/007/097/100  
C111/C333

An attempt at the psychological ...

the active selection of the signals is guaranteed, which, in turn, is decided through the arrangement of the control equipment and regulating devices.

[Abstracter's note: Complete translation.]

X



IDASHKIN, Yu.V.

Some deviations in the development of the personality of the pupil  
and ways of overcoming them. Vop.psikhol. 7 no.1:35-42 Ja-F '61.

(MIRA 14:3)

1. Institut psikhologii Akademii pedagogicheskikh nauk RSFSR, Moskva.  
(Child study)

BOGDANSKI, Kazimierz; IDASIAK, Ludmila

Gradient levels of the localization of ascorbigen and free ascorbic acid in the head of the Italian cabbage, (*Brassica oleracea* var. Sabanda L.) Rocznik nauki rosl 88 no.2:437-440 '64.

1. Vitaminological Laboratory, Institute of the Pharmaceutical Industry, Warsaw, and Department of Technology of Nutriment, Technical University, Lodz.

IDBRIL', Z.Ya., inzh.

Use of selenium rectifiers instead of counter-s.m.f. cells in d.c.  
networks. Vest. aviatsi 25 no.8:7-9 Ag '65.

(MIRA 18:10)

1. Giprosvyaz'.

SERYAKOV, N.I.; SHEYKINA, T.S.; PETROV, V.V.; IDERIL', Z.Ya.;  
SHESTERIKOV, V.G.; PRONIN, V.M.; LYUBSKIY, G.S.;  
ISAKOV, I.K.; VOLODARSKAYA, V.Ye., red.

[Automated power supply guarantee systems for telecommunication apparatus] Avtomatizirovannye ustroistva garantirovannogo pitaniia apparatury svyazi; informatsionnyi sbornik. Moskva, Izd-vo "Svyaz'," 1964. 132 p.  
(MIRA 17:6)

Michak, Ye. F.

Optical coefficients of chromium thin films obtained by thermal sublimation in vacuum

SOURCE: Optika i spektroskopiya, v. 17, no. 6, 1964, 923-926

... from sublimation ... coefficient  
... change of the optical properties ...  
conditions in vacuum. In the present ...  
... groups of films obtained under conditions contributing more or less to  
the adsorption of the gas, are studied. The optical coefficients were measured for these

NR REF SOV 10000553

... (which absorb less) always have a larger reflection coefficient and a  
larger transparency coefficient than the "less metallic" films. In both films there is a  
critical thickness below which the character of the reflection coefficient changes.

NR REF SOV

NR REF SOV

NR REF SOV

L 13104-63 EWT(1)/EWP(q)/EWT(m)/BDS AFFTC/ASD/SSD GG/RM/JD/JG 151

ACCESSION NR: AP3003418

S/0051/63/015/001/0107/0112

AUTHOR: Idchak, Ye.F. (P)

TITLE: Effect of the sublimation conditions on the optical properties of thin chromium films 60 59

SOURCE: Optika i spektroskopiya, vol.15, no.1, 1963, 107-112

TOPIC TAGS: optical coating; thin film; Cr

ABSTRACT: Thin coatings of various kinds are finding increasing use in optical instruments; for such uses it is essential to know their physical properties and the best technology of deposition. Accordingly, in the present work the optical properties - the reflection R and transparency T - of chromium films on glass substrates were studied. Chromium is of particular interest since it is used both alone and as a base layer to provide good adhesion. The films were deposited by thermal sublimation under vacuum from three tungsten "baskets" arranged in a circle with the glass being rotated in the process. Initially the T versus thickness curve was close to the theoretical curve, but the points for R showed appreciable scatter. This was subsequently minimized by improvement of the deposition technique: installing a movable shield. Curves for R and T versus thickness are ad-

Card 1/2

L 13104-63

ACCESSION NR: AP3003418

duced for films deposited without and with a shield at room temperature, films deposited on a heated substrate, and a heated and outgassed substrate. The T and R curves for the four cases are also juxtaposed in one figure for R and another for T. Use of a shield to cover the glass substrate during the initial stage of evaporation (the shield is withdrawn after the vacuum has improved owing to the getter action of the chromium vapor) results in more "metallic" coatings and more reproducible results. Orig.art.has 9 figures and 4 tables.

ASSOCIATION: Politechnicheskiy institut, Wroclaw, Poland (Polytechnical Institute)

SUBMITTED: 18Oct62

DATE ACQ: 30Jul63

ENCL: 00

SUB CODE: PH

NO REF SOV: 003

OTHER: 001

Card 2/2



ACC NR: AP6036292

SOURCE CODE: PO/2542/66/000/010/0037/0047

AUTHOR: Idczak, Elzbieta (Doctor, Senior assistant)

ORG: Department of Physics, Wroclaw Polytechnic Institute (Politechnika Wroclawska, Katedra Fizyki)

TITLE: Reflection coefficients of double metal layers

SOURCE: Breslau. Politechnika. Zeszyty naukowe, no. 128, 1966. Fizyka, no. 10, 37-47

TOPIC TAGS: silver, chromium, <sup>light</sup> reflection coefficient, metal film, optic property

ABSTRACT: Optical constants  $n$  and  $k$ , and the thickness  $d_0$  have been determined for single silver and chromium layers using Male's method and employing the experimental values for the optical coefficients for these films. The photometric thickness,  $d_0$ , for silver does not differ from the geometrical thickness,  $d$ , determined by the multiple interference method. In the case of chromium  $d_0$  always exceeds  $d$ . Reflection coefficients,  $R$ , of the double layers Cr-Ag and Ag-Cr have been calculated theoretically at 5000 and 10 000 Å and compared with the experimental values for reflection coefficient  $R_m$  of these layers. A correlation between  $R$  and  $R_m$  has been established, suggesting that the structures of silver and chromium films deposited on glass and on metal are similar. Thus, one may expect that the optical parameters of the multilayer system will be analogous to the ones calculated theoretically in

Card 1/2

ACC NR: AP6036292

this work. Orig. art. has: 8 formulas, 3 tables, and 3 figures.

SUB CODE: 11, 20/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 005

Card 2/2

IDCHAK, Ye.F.

Optical coefficients of thin chromium films obtained by thermal  
sublimation in a vacuum. Opt. i spektr.. 17 no.6:923-926 D '64.  
(MIRA 18:3)

IDCZAK, Elzbieta

Reflection, transmittance and absorbing property of thin chromium layers evaporated thermally in a vacuum. Zesz probl nauki Pol 25:134-141 '63.

1. Department of Physics, Technical University, Wroclaw.

L 39495-66 EWT(m)/EWP(t)/EWP(k)/ETI TJP(c) PD 18002.13

ACC NR: AT6003650

SOURCE CODE: PO/2542/65/000/008/0029/0037

AUTHOR: Idczak, Elzbieta (Master of Science, Senior Assistant in the Physics Dept.)

ORG: Breslau Polytechnical Institute (Politechnika Wroclawska)

TITLE: Optic constants of thin chromium films obtained by evaporation in vacuum

SOURCE: Breslau. Politechnika. Zeszyty naukowe. Fizyka, no. 8, 1965, 29-37

TOPIC TAGS: refractive index, absorption coefficient, optic constant, metal film, chromium

ABSTRACT: Measurements of the refractive index  $n$  and of the absorption index  $k$  of least metallic chromium films, varying in thickness from 27 to 1200 Å, were carried out in the 4000-10000 Å wavelength range. The measurement results show that 1) the variations of  $n$  and  $k$  with respect to  $\lambda$  in the wavelength range under consideration are very small and the thicker the films the smaller the variations, 2) the absorption index attains its maximum value at film thicknesses ranging from 180 to 250 Å and develops a constant value for thicknesses exceeding 600 Å, and 3) the refractive index at first decreases quite rapidly with increase in film thickness to about 200 Å, and then slowly attains a constant value which stabilizes at the starting thickness of about 500 Å. These measurements are based on previous data published by the author in another issue of this periodical (no. 6, 1963, 20). Orig. art. has: 2 figures and 2 tables.

SUB CODE: //,20/  
Card 1/1

SUBM DATE: none

ORIG REF: 005/

OTH REF: 005/

IDCZAKOWSKI, Z.; KORZENIOWSKI, J.

100th anniversary of the Agricultural Industries Enterprise at  
the State Farm Niechcice. Przem spos 15 no.10:52-53 '61.

L 39127-66 T JK

ACC NR: AP6030352

SOURCE CODE: RU/0003/65/016/003/0166/0167

AUTHOR: Unterman, W. H.; Budai-Albu, Margareta; Idel, Ana; Rusan, M. 34  
B

ORG: Research Services, Antibiotics Factory, Iasi (Fabrica de Antibiotice, Serviciul cercetari)

TITLE: Observations concerning the G-penicillin recovered from residual waters 6

SOURCE: Revista de chimie, v. 16, no. 3, 1965, 166-167

TOPIC TAGS: penicillin, chemical precipitation, recrystallization, paper chromatography, spectrophotometric analysis

ABSTRACT: The authors note that the penicillin G recovered by means of N,N-dibenzylethylenediamine salt from the mother liquor after precipitation of the mother product must be recrystallized in order to obtain a time-stable product free of foreign penicillins and decomposition products. To analyze the purity of the samples, they suggest spectrophotometric measurements of the absorption at 322 millimicrons as well as at 263 and 280 millimicrons in order to detect degradation products, and paper chromatography to detect foreign penicillins. Orig. art. has: 1 figure and 1 table. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 07 / SUBM DATE: none / ORIG REF: 001 / OTH REF: 003

Card 1/1

LIDELCHIK, B.M.		PROCESSING AND PROPERTIES INDEX	
<p>*Chemical Resistance of Metallic Solid Solutions. V. V. Shorcheletti and B. M. Lidelchik (<i>Metalurgy (Metallurgiya)</i>, 1934, (2), 30-47; (3), 27-30). (In Russian.) The corrosion-resistance of magnesium-cadmium and nickel-copper alloys has been studied from the point of view of Tammann's theory of resistance limits. After immersion for 4 hrs. in 0.1N-sulphuric acid at 10° C., magnesium-cadmium alloys show a well-marked limit at 25 atomic-% cadmium (3/8) and a less marked limit at 12.5 atomic-% cadmium (1/8). Rotation of the specimen does not affect the result. At 25° C. the upper limit disappears, probably owing to diffusion in the solid solution. Prolonged action of chemically active reagents on the alloy, in which diffusion occurs, displaces the resistance limit towards increased concentration of the more noble metal. These limits also occur in solutions of sodium and ammonium chlorides. These results are reviewed on Tammann's theory and attention is directed to the influence of relation between the atomic dimensions in the alloy and the ionic dimensions in the corrosive reagent, which is considered to be the SO<sub>4</sub> group when sulphuric acid is used. Measurement of the dissolution potentials of magnesium-cadmium alloys indicates that this method used independently does not always afford a correct idea of the chemical stability of alloys. Nickel-copper alloys in ammonia show clearly-defined resistance limits at 1/8, 2/8, and 4/8 mol. In contact with anhydrous sulphur chloride these alloys show no resistance limits.—N. A.</p>			
ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION		E22M 234A/VV	
E22M 234A/VV		E22M 234A/VV	
E22M 234A/VV		E22M 234A/VV	



1ST AND 2ND ORDERS		PROCESSES AND PROPERTIES INDEX	
IDEL'CHIK, B.M.		9	
<p>Effect of internal diffusion on the chemical stability of binary solid solutions. V. V. Skorobetli and B. M. Idel'chik. <i>Repts. Central Inst. Metals</i> (Leningrad) 17, 185-88 (in German 194) (1934).—The object of this investigation was to verify the law of "resistance limits," discovered by Tamman in 1919 and connecting the chem. behavior of metallic solid solns. with the arrangement of atoms in layers. Alloys of Pb-Hg constg. 0-38 mole % Hg were chosen, because their m. ps. are not far above room temp., so that diffusion of the atoms in the solid</p>			
<p>soln. takes place at room temp. The chem. behavior of these alloys was tested by allowing them to corrode in a 20% AcOH soln. to which a 30% soln. of <math>H_2O_2</math> was added in the ratio of 0.5 cc. <math>H_2O_2</math> soln. to 250 cc. acid soln. The exper. confirmed Tamman's law. S. L. Madorsky</p>			
<p>ASM-AIA METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>GROUPS 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p>			

<p>1. TITLE AND SUBJECT</p> <p>2. AUTHOR</p> <p>3. DATE</p> <p>4. ORIGIN</p> <p>5. CLASSIFICATION</p> <p>6. SUMMARY</p> <p>7. ABSTRACT</p> <p>8. REFERENCES</p> <p>9. NOTES</p> <p>10. INDEXING</p> <p>11. DISTRIBUTION</p> <p>12. STORAGE</p> <p>13. RETRIEVAL</p> <p>14. EVALUATION</p> <p>15. COMMENTS</p>		<p>16. ANALYSIS</p> <p>17. SYNTHESIS</p> <p>18. EVALUATION</p> <p>19. CONCLUSIONS</p> <p>20. RECOMMENDATIONS</p> <p>21. ACTION</p> <p>22. FOLLOW-UP</p> <p>23. STATUS</p> <p>24. CLOSURE</p> <p>25. ARCHIVAL</p> <p>26. DESTRUCTION</p> <p>27. RECOVERY</p> <p>28. REPAIR</p> <p>29. REPLACEMENT</p> <p>30. REUSE</p> <p>31. RECYCLING</p> <p>32. REPAIR</p> <p>33. REPLACEMENT</p> <p>34. REUSE</p> <p>35. RECYCLING</p>
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1. TITLE AND SUBJECT: IDEL'CHIK, B.M.

2. AUTHOR: V. V. Skorochil'letti and B. M. Idel'chik

3. DATE: 1954

4. ORIGIN: Central Inst. Metals (Leningrad)

5. CLASSIFICATION: No. 17, 195-207 (in German 207-H)

6. SUMMARY: A series of expts. were carried out on the corrosion of 2-phase alloys. Ten alloys of Pb-Bi in concns. 0-100% and 10 alloys of Sn-Zn in the same concns. were first analyzed microscopically and then tested for corrosion: the Pb-Bi alloys, in 20% AcOH and 0.1 N H<sub>2</sub>SO<sub>4</sub>; the Sn-Zn alloys, in 0.1 N H<sub>2</sub>SO<sub>4</sub> and 0.1 N NaOH solns. The results show that there are 3 types of corrosion: (1) that due to a p. d. between the 2 phases, without to produce a lasting electrolysis, (2) that due to same cause, but where a lasting electrolysis is prevented by polarization and (3) that in which one of the components becomes insol. owing to passivation. Corresponding to these 3 types of corrosion, 3 types of compn.-rate of corrosion curves are possible. The 1st type of curve has a more or less sharp max.; the other 2 types are similar to each other in shape and show a sharp fall of rate of corrosion with change of compn. The degree of dispersiveness of the phases has a decided effect on the rate of corrosion. In type 1, where H<sub>2</sub> overvoltage would be smaller the finer the grain, high dispersiveness is undesirable (Pb-Bi in AcOH); in type 2, where the phases have a tendency to become covered with a nonconducting layer, high dispersiveness is desirable (Pb-Bi in H<sub>2</sub>SO<sub>4</sub> soln.); in case of type 3 high dispersiveness will protect the more sol. phase and hence make the alloy more resistant to corrosion (Sn-Zn in H<sub>2</sub>SO<sub>4</sub> or NaOH solns.).

7. ABSTRACT: S. L. Madorsky

8. REFERENCES: 1. V. V. Skorochil'letti and B. M. Idel'chik, *Repts. Central Inst. Metals (Leningrad)* No. 17, 195-207 (in German 207-H) (1954).

9. NOTES: 9

10. INDEXING: 1. 17, 195-207 (in German 207-H)

11. DISTRIBUTION: 1. 17, 195-207 (in German 207-H)

12. STORAGE: 1. 17, 195-207 (in German 207-H)

13. RETRIEVAL: 1. 17, 195-207 (in German 207-H)

14. EVALUATION: 1. 17, 195-207 (in German 207-H)

15. COMMENTS: 1. 17, 195-207 (in German 207-H)

16. ANALYSIS: 1. 17, 195-207 (in German 207-H)

17. SYNTHESIS: 1. 17, 195-207 (in German 207-H)

18. EVALUATION: 1. 17, 195-207 (in German 207-H)

19. CONCLUSIONS: 1. 17, 195-207 (in German 207-H)

20. RECOMMENDATIONS: 1. 17, 195-207 (in German 207-H)

21. ACTION: 1. 17, 195-207 (in German 207-H)

22. FOLLOW-UP: 1. 17, 195-207 (in German 207-H)

23. STATUS: 1. 17, 195-207 (in German 207-H)

24. CLOSURE: 1. 17, 195-207 (in German 207-H)

25. ARCHIVAL: 1. 17, 195-207 (in German 207-H)

26. DESTRUCTION: 1. 17, 195-207 (in German 207-H)

27. RECOVERY: 1. 17, 195-207 (in German 207-H)

28. REPAIR: 1. 17, 195-207 (in German 207-H)

29. REPLACEMENT: 1. 17, 195-207 (in German 207-H)

30. REUSE: 1. 17, 195-207 (in German 207-H)

31. RECYCLING: 1. 17, 195-207 (in German 207-H)

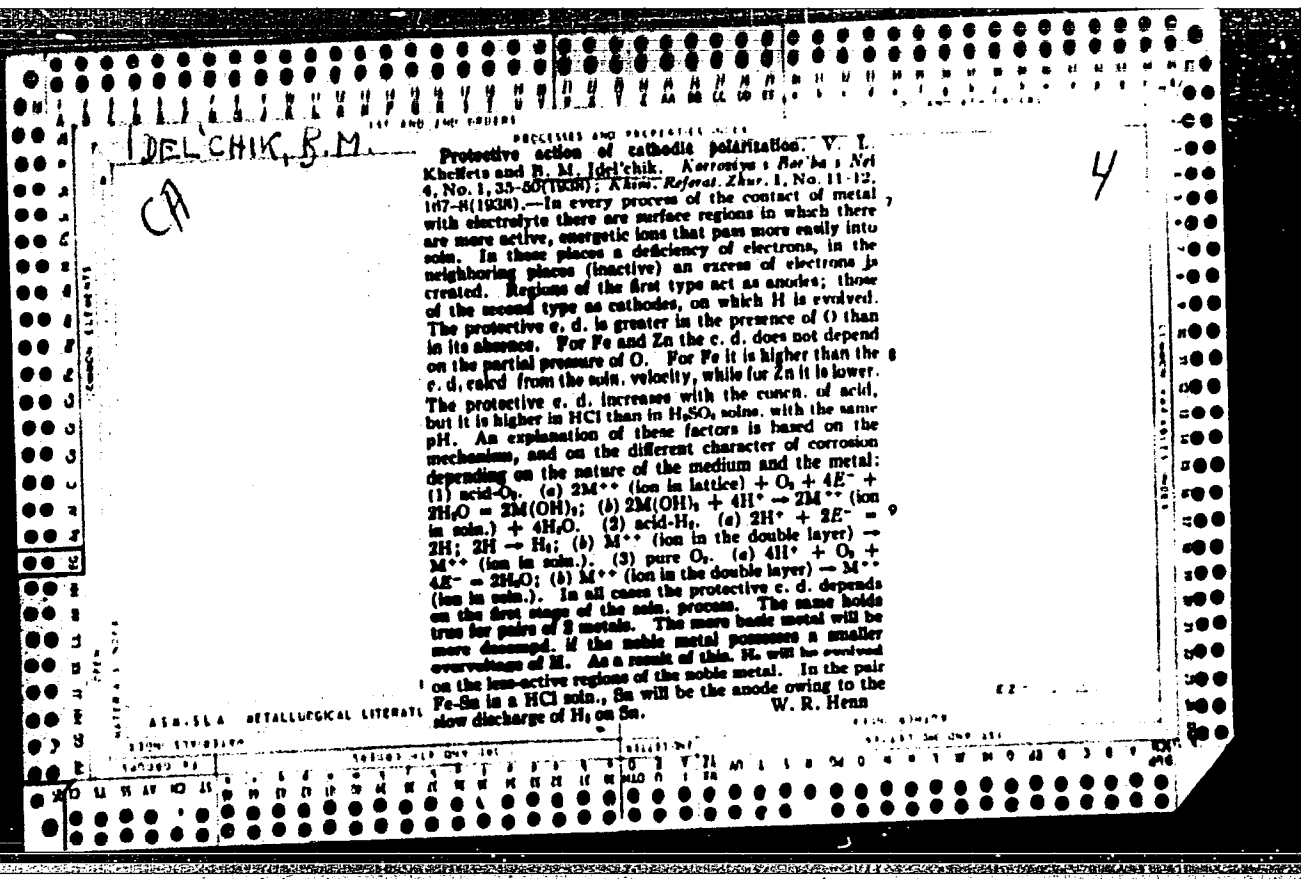
32. REPAIR: 1. 17, 195-207 (in German 207-H)

33. REPLACEMENT: 1. 17, 195-207 (in German 207-H)

34. REUSE: 1. 17, 195-207 (in German 207-H)

35. RECYCLING: 1. 17, 195-207 (in German 207-H)

IDEL'CHIK, B. M.		PROCESSES AND PROPERTIES INDEX	
<p>*Protective Properties of the Corrosion Products of Different Metals. V. V. Shrotchevets and B. V. Idel'chik (<i>Sobremennaya Zashchita Metallov</i> (Comm. Central Inst. 270027), 1936, (10), 179-190).— (In Russian.) A study was made of the rate of corrosion of iron, copper, cadmium, zinc, and aluminum in sodium chloride and sodium sulphate solutions. The rate of penetration of the ions through the films of corrosion products, the sensitivity of the films to non-uniform aeration, the interfacial resistance between electrolyte, film, and metal, the conductivity of the loose corrosion products and their capacity for adsorbing <math>H^+</math> and <math>SO_4^{2-}</math> ions were investigated. Low penetration rates and high interfacial resistance of the film are essential for low rates of corrosion of aluminum, copper, and, to a smaller degree, cadmium. Irregular aeration is of minor importance in the case of aluminum in sulphate and copper in chloride solutions, but, although zinc shows little sensitivity to non-uniform aeration in sulphate solutions, it is rapidly corroded by them. The adsorptive capacity of the corrosion films does not appreciably affect the rates of corrosion of the metals. A high interfacial resistance is ascribed to the presence of an adherent corrosion film below the exterior stony film. N. A.</p>			
<p>4</p>			
<p>450.51.4 METALLURGICAL LITERATURE CLASSIFICATION</p>			



DEL'CHIK, B.M.

Materials for the production of exhaust pipes for gases from coke ovens. C. P. Ivanov and B. M. Idel'chik. *Korrozii* 4, No. 3, 241-7 (1938); *Khim. Referat. Zhur.* 2, No. 4, 142 (1939).—The stability in coke gas of the following alloys was investigated: "commercial" latten, Nilatten, bronze "brazhm," 5 and 10% Al bronze, various steels, sheet Al and rolled Pb. Exposure to coke gas, purified from the tar, for 720 hrs. at 50-100°, caused all samples to be covered with films, but their loss of wt. was insignificant. Latten was found to be the most suitable material. W. R. Henn

SOV/137-58-9-19999

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 272 (USSR)

AUTHOR: Idel'chik, B.M.

TITLE: 1Kh18N9T Steel Used Instead of 2Kh13 Steel as Blade Material  
for Rotors Operating in a Producer-gas Atmosphere (Ispol'-  
zovaniye v kachestve lopatochnogo materiala na rotorakh,  
rabotayushchikh v atmosfere poluvodyanykh gazov, stali  
1Kh18N9T vzamen stali 2Kh13)

PERIODICAL: Tr. Nevsk. mashinostroit. z-da, 1957, Nr 2, pp 77-78

ABSTRACT: Bibliographic entry

1. Steel--Effectiveness 2. Rotor blades--Materials

Card 1/1

AUTHORS: Skorchelletti, V. V., Idel'chik, B. M. SOV/163-58-3-48/49

TITLE: On the Corrosion Cracking of Soft Steels (O korrozionnom rastreskivanii myagkoy stali)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 3, pp 279-284 (USSR)

ABSTRACT: The influence of the polarization on the cracking rate of soft steels was investigated. At a tension of 29,1; 24,3 and 22 kg/mm<sup>2</sup> the anodic polarization increases in the beginning and then drops until the occurrence of the cracking. The cathodic polarization hampers the cracking process. The experiments carried out with anodic polarization demonstrate that the corrosion cracking not only causes an unequal corrosion of the metals but also a decrease of the strength of the metal. The decrease of the strength of the metal surface leads to an electrocapillary phenomenon. From the results obtained may be concluded that in classifying the stability of metals to corrosion cracking it is important to know whether the metal is in contact with another metal, and whether factors occur which cause a forced polarization of the metals. When such factors occur investigations of the effect of the anodic and cathodic polarization on the cor-

Card 1/2

On the Corrosion Cracking of Soft Steels

SOV/163-58-3-48/49

rosion rate are necessary.

There are 3 figures and 10 references, 6 of which are Soviet.

ASSOCIATION: Leningradskiy politekhnicheskii institut (Leningrad Poly-technical Institute)

SUBMITTED: October 13, 1957

Card 2/2



IDEL'CHIK, B.M., inzh.; CHIKUROVA, A.A., inzh.

Preservation measures and protective and decorative coatings for  
parts and assemblies of turbines and compressors going to  
tropical countries. Energomashinostroenie 4 no. 6:45 Je '58.

(MIRA 11:8)

(Protective coatings)  
(Machinery--Painting)

38707

S/598/62/000/007/039/040  
D217/D307

18.1285

AUTHORS: Belan, N. I., Idel'chik, B. M., Borisova, M. S. and  
Chikurova, A. A.

TITLE: Investigating titanium alloy AT6 (AT6) for its suitability as material for working wheels of supercharges operating in aggressive media

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. no. 7, Moscow, 1962. Metallokhimiya i novyye splavy, 288-293

TEXT: Forgings of the alloy AT6, containing 5.8 wt-% Al and 1.1% Cr + Fe + Si + B, were studied. The mechanical properties of the as-received material were tested on probes from the surface and from the central portion of the forging. In order to choose the optimum heat treatment of manufactured components and to elucidate the influence of annealing on the change in mechanical properties of the alloy, two heat treatment procedures were tried out. One of them, recommended by the Institute of Metallurgy AS USSR, con-

Card 1/3

Investigating titanium alloy ...

S/598/62/000/007/039/040  
D217/D307

sists in heating to 850°C, soaking at that temperature for 1 hour and cooling in air. The other consisted in heating to 840°C, soaking at that temperature for 1 hour and furnace-cooling to 600°C, followed by cooling in air. The alloy was also tested for its corrosion resistance. It was found that the alloy in the forged condition possesses a high proof stress, both at the surface and in the center of the forgings, high toughness and a satisfactory plasticity. Heat treatment of the alloy at 840°C with subsequent air cooling increases the impact resistance somewhat, without affecting the original strength and plasticity. Furnace-cooling from 840°C to 600°C leads to a slight reduction in percentage elongation. The alloy did not exhibit any tendency to stress corrosion cracking during testing with application of a tensile stress of 70 kg/mm<sup>2</sup> for 750 hours at room temperature in water saturated with H<sub>2</sub>S. Also, the general corrosion resistance of the alloy in water saturated with H<sub>2</sub>S was found to be high. On bringing the alloy in contact with the steel 1X18H9T (1Kh18N9T) with an area ratio of 1:1, the corrosion resistance of the steel in H<sub>2</sub>S-saturated water de-

Card 2/3

Investigating titanium alloy ...

S/598/62/000/007/039/040  
D217/D307

creased somewhat, but still remained at a high level. Under conditions of short-term testing (700 hours) in hydrogen at 100°C and a pressure of 60 atm, no tendency to hydrogen embrittlement was observed. There are 4 figures and 3 tables.

Card 3/3

ACCESSION NR: AT4007056

S/2598/63/000/010/0322/0331

AUTHOR: Belan, N. I.; Borisova, M. S.; Idel'chik, B. M.; Chikurova, A. A.

TITLE: Titanium alloys AT-3, AT-4, AT-6 and VT-3-1 as materials for compressor discs operating in various aggressive media

SOURCE: AN SSSR. Institut metallurgii. Titan i yego splavy\*, no. 10, 1963. Issledovaniya titanovy\*kh splavov, 322-331

TOPIC TAGS: titanium alloy, titanium alloy property, elevated temperature property, subzero temperature property, AT-3 titanium alloy, AT-4 titanium alloy, AT-6 titanium alloy, VT-3-1 titanium alloy, titanium alloy corrosion, titanium alloy stress corrosion, titanium aluminum chromium alloy, silicon containing alloy, iron containing alloy, boron containing alloy, titanium alloy corrosion resistance

ABSTRACT: The possibility of using titanium-base alloys for compressor runner discs operating in air and aggressive media has been investigated. As shown in Table 1 of the Enclosure test specimens of alloys AT-3, AT-4, AT-6, and BT-3-1 have been used, and their mechanical properties, thermal stability, compatibility with aggressive

Card 1/4

ACCESSION NR: AT4007056

media, and galvanic action with steels have been investigated under various conditions. It has been found that: (1) Optimum annealing has practically no influence on the original mechanical properties of alloys AT-3, AT-4, and AT-6. (2) Short-time tensile strength of alloys AT-3, AT-4, AT-6, and BT-3-1 decreases with the increase of temperature up to 400 C and ductility increases. (3) Impact resistance decreases considerably at low temperatures, particularly at -80 C for AT-4, at -40 C for AT-6, and below -80 C for BT-3-1; however, even at the lowest test temperature of -180 C, the lowest impact resistance is  $2-3 \frac{\text{kg} \cdot \text{m}}{\text{cm}^2}$ . (4) Heating of alloys AT-3, AT-4, AT-6, and BT-3-1 for 3700 hours at 200 C has no influence on mechanical properties. Heating of alloys AT-4, AT-6, and BT-3-1 for 9500 hours at 400 C considerably reduces plasticity and impact strength, but increases hardness and tensile strength. (5) At room temperature alloys AT-3, AT-4, and BT-3-1 have high corrosion resistance to a saturated aqueous solution of hydrogen sulfide, to 5% hydrochloric acid solution, and to an 'industrial' atmosphere containing 0.1% SO<sub>2</sub> and 0.5% CO<sub>2</sub> at 100% relative humidity. Coupling of the alloys with steels of the type 1X 18H9T and X 17H2 in saturated aqueous solution of hydrogen sulfide and with steels 40X and 1X 18H9T in an 'industrial' atmosphere barely reduces the corrosion resistance of the steels. (6) At room temperature the corrosion resistance of alloys AT-3,

Card 2/4

ACCESSION NR: AT4007056

AT-4, and BT-3-1 to 10% hydrochloric acid solution is satisfactory. (7) At room temperature alloys AT-3, AT-4, and BT-3-1 have not shown a tendency to corrosion cracking under simultaneous action of tensile stress (80% of yield) and an aggressive medium: (a) during 500 hours in saturated aqueous solution of hydrogen sulfide; (b) during 1200 hours in 5% hydrochloric acid solution. (8) At room temperature alloys AT-4 and BT-3-1 have not shown a tendency to corrosion cracking during 1200 hours in 30% nitric acid solution under simultaneous action of tensile stress (60% of yield). (9) At room temperature alloys AT-3, AT-4, and BT-3-1 have indicated a tendency to corrosion cracking in 10% hydrochloric acid solution under simultaneous action of tensile stress (80% of yield). (10) Alloys AT-3, AT-4, and BT-3-1 have shown a tendency to absorb atomic hydrogen at conditions of electrolysis at 45C; simultaneous action of tensile stress (60% of yield) during the process of hydrogen absorption leads to the brittle fracture of specimens after a relatively short time (20-50 hours). Orig art. has: 10 tables.

ASSOCIATION: Institut Metallurgii AN SSSR (Metallurgical Institute AN SSSR)

SUBMITTED: 00

DATE ACQ: 27Dec63

ENCL: 01

SUB CODE: MM

NO REF SOV: 000

OTHER: 000

Card 3/4

ACCESSION NR: AT4007056

ENCLOSURE: 01

Table 1 — Chemical composition, dimensions and number of tested forging billets of titanium alloys AT-3, AT-4, AT-6, and BT-3-1.

Alloy	Composition, % (*)							Dimensions, mm		Number of tested billets
	Al	Cr	Mo	Si	Fe	B	Σ Cr, S, Fe	dia.	height	
AT-3	2.8	0.30	-	0.23	0.51	0.01	1.0	430	110	1
AT-4	4.69	0.80	-	0.34	0.26	0.01	1.4	430	95	2
AT-6	5.52	0.71	-	0.64	0.29	0.01	1.6	430	95	1
BT-3-1	5.41	1.9	2.34	0.06	0.16	-	-	480	120	2

\* Note: The rest is titanium

Card 4/4



ACCESSION NR: AT4026282

S/2563/63/000/223/0131/0140

AUTHOR: Skorchelletti, V. V.; Idel'chik, B. M.

TITLE: Corrosion cracking of soft steel

SOURCE: Leningrad. Politekhnicheaskiy institut. Trudy\*, no. 223, 1963. Metallurgiya tsvetny\*kh metallov (Metallurgy of nonferrous metals), 131-140

TOPIC TAGS: soft steel, soft steel corrosion, soft steel cracking, steel corrosion cracking, corrosion, cracking, polarization, anode polarization, cathode polarization

ABSTRACT: On the basis of a detailed review of the literature on the relationship between the hardness and crack-resistance of metals and their electrochemical polarization, which can lead to unequal corrosion and the development of stress concentrators, the authors investigated the influence of the electrode potential of soft alloy steel on the cracking rate in a hot, saturated solution of ammonium nitrate. It was found that the cracking rate decreased with a decrease in tensile stress (see Fig. 1 of the Enclosure). Anode polarization at stresses of 29.1, 24.3, and 19.1 kg/mm<sup>2</sup> first increased and then decreased the time prior to cracking, while cathode polarization uniformly delayed the appearance of cracks. Tests with anode polarization showed that corrosion cracking of steel is not caused simply by unequal corrosion and the development of stress concentrators, but by the

Card 1/3

ACCESSION NR: AT4026282

electrocapillary lowering of the surface strength as the result of spontaneous or forced polarization. The investigation also showed that whether or not the tested metal is in contact with other metals, should be taken into consideration, i. e. whether or not there are inherent factors causing polarization of the given metal. Orig. art. has: 10 figures and 1 table.

ASSOCIATION: Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute)

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ENCL: 01

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NO REF SOV: 003

OTHER: 001

2/3

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ENCLOSURE: 01

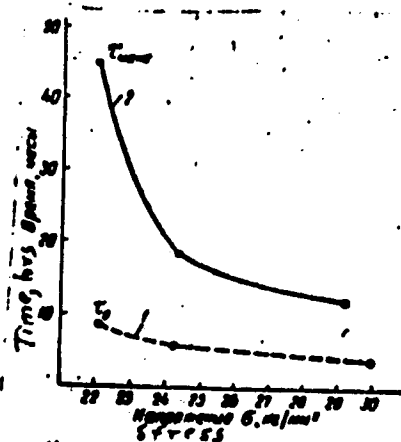


Fig. 1 - Relationship between time before cracking and stress.

Card 3/3

L 02422-67 EWT(m)/T/E F(w)/EMP(t)/ETI IJP(c) WB/JD

ACC NR: AP6031402

SOURCE CODE: UR/0114/66/000/009/0037/0040

AUTHOR: Idel'chik, B. M. (Engineer); Belan, N. I. (Engineer)

ORG: none

TITLE: Behavior of titanium alloys applied to the working conditions of compressors

SOURCE: <sup>27</sup>Energomashinostroyeniye, no. 9, 1966, 37-40

TOPIC TAGS: aluminum containing alloy, chromium containing alloy, corrosion resistant alloy, centrifugal compressor, titanium alloy, tensile strength, elongation/ AT-3 titanium alloy, AT-4 titanium alloy, AT-6 titanium alloy, BT3-1 titanium alloy

ABSTRACT: In a search for compressors materials capable of working in aggressive gas atmospheres, AT-3 (2.8% Al, 0.3% Cr, 0.23% Si, 0.51% Fe, 0.01% B), AT-4 (4.69% Al, 0.80% Cr, 0.34% Si, 0.26% Fe, 0.01% B), AT-6 (5.52% Al, 0.71% Cr, 0.64% Si, 0.29% Fe, 0.01% B) and BT3-1 (5.41% Al, 1.9% Cr, 2.34% Mo, 0.06% Si, 0.16% Fe) titanium alloys were investigated. After annealing (AT-3 at 800C, AT-4 at 850C, AT-6 at 900C, and BT3-1 at 870C with 7 hr holding and air cooling) these alloys had a room-temperature tensile strength ( $\sigma_b$ ) of 69.5, 86.7, 92.4, and 94.8 kg/mm<sup>2</sup>, an elongation ( $\delta$ ) of 17.5, 15.6, 9.2, and 12.4% and a notch toughness ( $a_k$ ) of 8.9, 5.5, 5.5, and 8.4 kgm/cm<sup>2</sup>, respectively. At 400C, the tensile strength decreased to 46.2, 56.3, 71.8, and 61.0, respectively, but the elongation did not change. At -180C the notch toughness for AT-4, AT-6 and BT3-1 alloys was 2.0, 2.2, and 3.3 kgm/cm<sup>2</sup>, respectively. After holding at 200C for 3700 hr the AT-3, AT-4, Card 1/2

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